LISTING OF CLAIMS:

1-15 (Cancelled)

16. (Currently Amended) A method for performing hand-off of a mobile station in a cellular system or wireless local loop that includes a smart antenna system of plural sector antennas, comprising the steps of:

recording signal strengths received at one or more of the plural sector antennas from the mobile station;

calculating the rates of signal changes from the recorded signal strengths;

assessing the movement of the mobile station based on the calculated rates of signal changes;

determining when signal strength received at one antenna from the mobile station reaches a predetermined threshold; and

performing a hand-off of the mobile station when reaching of the predetermined threshold is so determined, wherein at least one aspect of the hand-off is controlled in response to the assessment of the movement of the mobile station based on the calculated rates of signal changes.

17. (Currently Amended) The method according to claim 16, wherein:

the hand-off comprises a selected one of: a hand-off between two different sector antennas, a hand-off between two different serving sectors, and a hand-off between two adjacent cells; and

selecting the one hand-off is based on the assessment of the movement of the mobile station based on the calculated rates of signal changes.

18. (Previously Presented) The method according to claim 17, wherein the step of assessing the movement includes the step of:

determining if the rate of change is indicative of tangential motion across an antenna sector or is indicative of radial motion within an antenna sector.

19. (Previously Presented) The method according to claim 16, wherein the step of determining when signal strength reaches a predetermined threshold further comprises the steps of:

determining when signal strength received at the one antenna from the mobile station reach reaches a first predetermined threshold;

performing processing operations in preparation for hand-off; and

determining when signal strength received at the one antenna from the mobile station reaches a second predetermined threshold.

20. (Currently Amended) A method for arranging plural sector antennas into plural serving sectors of a cell base station, comprising the steps of:

associating with each serving sector a respective first subset of the plural sector antennas according to a first arrangement;

measuring a traffic load in each serving sector;

analyzing the measured traffic loads to determine if redistribution of the arrangement of antennas associated with the plural serving sectors should be performed, the step of analyzing the measured traffic loads comprising determining if a traffic load in any one of the serving sectors exceeds a predetermined threshold;

if redistribution should be performed, calculating a balanced arrangement of antennas within the serving sectors, the step of calculating the balanced arrangement comprising calculating an arrangement wherein the traffic load in every one of the serving sectors is below the predetermined threshold; and

associating with each serving sector a respective second subset of plural antennas according to the balanced arrangement, wherein at least one respective subset for an associated serving sector differs from the respective first subset for the associated serving sector.

21. (Original) The method according to claim 20, wherein

the first arrangement associates the same number of antennas with each serving sector.

Claims 22-25 (Cancelled)

26. (Currently Amended) A computer readable medium bearing instructions for performing hand-off of a mobile station in a cellular system that includes a smart antenna system of

plural sector antennas, said instructions being arranged to cause one or more processors upon execution thereof to perform the steps of:

recording signal strengths received at one or more of the plural sector antennas from the mobile station;

calculating the rates of signal changes from the recorded signal strengths;

assessing the movement of the mobile station based on the calculated rates of signal changes;

determining when signal strength received at one antenna from the mobile station reaches a predetermined threshold; and

performing a hand-off of the mobile station when reaching of the predetermined threshold is so determined, wherein at least one aspect of the hand-off is controlled in response to the assessment of the movement of the mobile station based on the calculated rates of signal changes.

27. (Currently Amended) A computer readable medium bearing instructions for performing location finding of a mobile station in a cellular system that includes a smart antenna system of plural sector antennas along with a cell-site signal coverage [[map]] profile, said instructions being arranged to cause one or more processors upon execution thereof to perform the steps of:

recording signal strengths received at one or more of the plural sector antennas from the mobile station;

calculating the rates of signal changes from the recorded signal strengths;

assessing the movement of the mobile station based on the calculated rates;

predicting the mobile station's movement based on the received signal strengths, and

determining the location of the mobile station by comparing the received signal strength from at least one sector antenna against the cell-site signal coverage profile along with its predicted movement.

28. (Currently Amended) A computer readable medium bearing instructions for arranging plural sector antennas into plural serving sectors of a call base station, said instructions being arranged to cause one or more processors upon execution thereof to perform the steps of:

associating with each serving sector a respective first subset of the plural sector antennas according to a first arrangement;

measuring a traffic load in each serving sector;

analyzing the measured traffic loads to determine if redistribution of the arrangement of antennas associated with the plural serving sectors should be performed, the step of analyzing the measured traffic loads comprising determining if a traffic load in any one of the serving sectors exceeds a predetermined threshold;

if redistribution should be performed, calculating a balanced arrangement of antennas within the serving sectors, the step of calculating the balanced arrangement comprising calculating an arrangement wherein the traffic load in every one of the serving sectors is below the predetermined threshold; and

associating with each serving sector a respective second subset of plural antennas according to the balanced arrangement, wherein at least one respective subset for an associated serving sector differs from the respective first subset for the associated serving sector.

29. (Previously Presented) The method of claim 16, wherein the signal strengths are strengths of spread-spectrum signals received at one or more of the sector antennas.